

nae, but with strong lateral carinae from base to spiracle and from spiracle to apex.

Black, with whitish to yellowish markings as follows: mandibles, palpi, apex of clypeus, antennal insertions, scape and pedicel beneath, pronotum anteriorly, propleura largely, front and middle coxae and trochanters, hind trochanters below, tegulae, spot below, scutellum and post scutellum, tergal sutures, and apical tergite; antennae brown; legs testaceous, hind tibiae and tarsi fuscous; wings hyaline.

Male.—Differs from female principally in color, the markings being paler and embracing the entire face, cheeks, entire ventral surface of thorax except metasternum, extending up nearly to dorsal margin of mesopleura, ventral surface of all legs except tarsi, a central spot on mesoscutum, occasionally a small spot on each side of prescutum, more or less obscure spots laterally on propodeum, and much broader bands on abdomen.

Zemiodes (?) *variabilis* (Provancher).

Mesoleptus variabilis Provancher, Nat. Can., VII, 1875, p. 115, (not 1882).

Mesoleptus muliebris Cresson, Provancher, Nat. Can., XI, 1879, p. 227.

Provancher synonymized these two, but the synonymy is incorrect.

Euryproctus sentiris Davis.

?*Mesoleptus variabilis* Provancher, Nat. Can., XIV, 1882, p. 7. (not 1875).

?*Mesoleptus provancheri*, new name for *variabilis* Provancher, 1882 not 1875.

Euryproctus sentiris Davis, Trans. Am. Ent. Soc., XXIV, 1897, p. 330.

NEW HYMENOPTERA.

BY J. C. CRAWFORD.

Hesperapis Ckll.

Professor Cockerell has recently (*Psyche*, XXIII, 176-178, 1916) published on the synonymy of this group, and at present it seems best to treat *Zacesta* and *Panurgomyia* as synonyms of this genus. *Z. rufipes* is very similar to the genotype of *Hesperapis* and is probably the male of a very closely allied species. *Panurgomyia fuchsi* belongs to the group of *H. eumorpha* and (*Panurgus*) *H. regularis* Cress. and is very close to *regularis*. The type of *fuchsi* is in bad condition and the identification is, therefore, somewhat uncertain.

The following table will separate the males of the group of *rhodocerata* and allies, that is those in which the propodeal triangle is not closely punctured but mostly smooth.

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|--|--------------------------|
| 1. Wings perfectly clear..... | <i>larreae</i> Ckll. |
| Wings not perfectly clear..... | 2 |
| 2. Inner orbits parallel..... | <i>laticeps</i> n. sp. |
| Inner orbits converging below..... | 3 |
| 3. Apex of wings whitish..... | <i>oliviae</i> Ckll. |
| Apex of wings not whitish..... | 4 |
| 4. Legs entirely fulvous..... | <i>fulvipes</i> n. sp. |
| Legs mostly dark..... | 5 |
| 5. Tarsi and spot on tegulae reddish; veins light brown..... | <i>rhodocerala</i> Ckll. |
| Tarsi and tegulae black; veins almost black..... | <i>arenicola</i> n. sp. |

Hesperapis laticeps new species

Male.—Length 9 mm. Black, head broader than thorax, inner orbits parallel; vertex high; face laterad of ocelli not depressed; cheeks at upper end of eye convex in outline; face finely sparsely punctured, surface almost concealed by the dense white pubescence; anterior margin of clypeus reddish; labrum and mandibles, except the red apical portions, honey color; tip of one mandible reaching to base of other; joints of labial palpi almost equal in length; flagellum light reddish beneath; thorax and propodeum, except triangular enclosure covered with dense white hair; mesonotum finely sparsely punctured; base of propodeal triangle finely wrinkled, the wrinkles nearest metanotum parallel to the posterior edge of that sclerite; the wrinkles beyond these broken medially and the inner ends turning caudad; rest of triangle, except apical part, finely reticulated; tegulae with a large reddish spot; wings slightly dusky; veins light brown; first cubital cell over one-third longer than second; legs brown; abdomen dark brown, closely and finely punctured with short brown pubescence, apical margins of segments 1-6 with a band of white appressed pubescence.

Type locality.—Panamint Valley, California, (April, 1891, A. Koebele coll.)

Eight specimens; type and paratypes a and b with the above record; paratypes c-g from the Panamint Mts., (April, 1891, Koebele), the latter series have evidently been in alcohol and are badly rubbed.

Type.—Cat. No. 21160 U. S. N. M.

Hesperapis fulvipes new species.

Male.—Length 11 mm. Black, with slightly ochraceous pubescence, long and dense on thorax and very dense and almost white below antennae; face finely sparsely punctured; inner orbits distinctly converging; face laterad of ocelli concave; anterior margin of clypeus and labrum almost honey color; base of mandibles yellowish, tips ferruginous; flagellum reddish, somewhat darker above; mesoscutum with sparse small punctures, punctures of scutellum closer; propodeum smooth, extreme base indistinctly reticulated, tegulae testaceous; wings faintly dusky; stigma and

veins honey color; legs reddish, more yellowish apically; coxae darker; abdomen finely sparsely punctured with scattered ochraceous hairs and slightly ochraceous bands in segments 1-5, segment 6 almost entirely covered covered with sim lar hair; venter largely rufous.

Described from two males from San Diego County, Calif., collection Coquillett, the paratype somewhat less than 10 mm. long.

Type.—Cat. No. 21161 U. S. N. M.

Hesperapis arenicola new species.

Male.—Length 10 mm. Black, with ochraceous pubescence, dense on head and thorax and very dense and almost white below antennae; inner orbits distinctly converging; mandibles dark with reddish tips; face finely rather sparsely punctured; face in outline laterad of ocelli concave; cheeks in outline at top of eyes concave; first joint of labial palpi about as long as joints 2 and 3; antennae dark, obscurely reddish beneath at extreme tip; mesoscutum and scutellum rather closely and finely punctured, the punctures becoming sparse mesad; propodeum smooth, shiny, with a very short dorsal row of longitudinal rugulae; posterior face of propodeum with scattered punctures; tegulae black, wings slightly infuscated, stigma dark brown, the margins darker, veins almost black; legs black with ochraceous pubescence; abdomen with minute rather close punctures, with long scattered ochraceous hairs and apical bands of lightly ochraceous hair on segments 1-6.

Described from seven males collected by E. A. McGregor with the record "Indio sands, Coachello Valley, Calif., March 19, 1917."

Type.—Cat. No. 21162 U. S. N. M.

The specimens vary in size from about 10.5 mm. to 8.5 mm.

Epeoloides Giraud.

The genus *Viereckella* Swenk is a synonym and the included species are *obscura* Swenk and *pilosula* Cresson; *nearcticus* Ducke and *ceanothina* Cockerell are synonyms of *pilosula*.

Trachusa manni n. sp.

Male.—Length 14 mm. Black, clypeus and lateral face marks, truncate above and extending slightly above clypeus, creamy white; mandibles 3-toothed; pubescence on occiput and on dorsum of thorax deep ochraceous tinged with reddish; on front light ochraceous, below antennae almost white, on pleurae ochraceous fading into white below; clypeus with strong well separated punctures, medially longitudinally elevated but not carinate; facial quadrangle, measured from mandibles to top of eye slightly longer than wide; punctures above antennae strong, close; mesoscutum rugosopunctate; propodeum with a basal area extending onto posterior face and defined by an impunctate line, the dorsal aspect of area with punctures

separated by about a puncture width, the interstices lineolate, posterior face of area lineolate; propodeum outside of area with punctures about as on dorsal face of area; wings brownish, more so apically and along anterior margin; second recurrent vein interstitial; transverso-medial not exactly interstitial, the exterior margin of the vein about in line with the interior margin of the basal vein; legs black, their pubescence almost white, that on inner side of basal joint of hind tarsi strongly reddish; hind tibial spurs dark brown; abdomen with hair bands on apical margins of segments 1-5, that on segment one ochraceous, rest white; segment one closely punctured, punctures on segments 2-5 decreasing successively in abundance, most of segment 6 rugoso-punctate; sixth segment with a strongly elevated carina near apex, broadly interrupted medially and laterally extending forward almost to base of segment but with decreasing elevation; apical margin of segment with a produced plate as broad as interruption in carina, which is smooth, slightly curved apically and with rounded corners; seventh segment with a longitudinal carina, the apex produced, deeply and broadly emarginate, the productions subtriangular in outline and somewhat reflexed.

Type locality.—Ramsey Canon, Huachuca Mts., Ariz.

Type.—Cat. No. 21836, U. S. N. M.

Described from two males collected by Dr. W. M. Mann, in honor of whom it is named. Paratype in the collection of Dr. Mann.

Differs from the description of *T. perdita* Ckll. in its larger size, deeper color of pubescence, shorter facial quadrangle, interstitial second recurrent vein, lack of a median carina on sixth segment and presence of one on the seventh segment, etc.

Stelis manni n. sp.

Female.—Length over 11 mm. Black, robust, with yellow ornamentations as follows: lateral face marks extending almost to summit of eyes and slightly obliquely truncate above; a transverse stripe behind ocelli extending down behind eyes almost one-fourth the length of eye; lateral and anterior margins of scutum, broadly interrupted medially in front, axillae, spot on each side of scutellum, lateral margin of tubercles, a broad band on disc of segments 1-5 successively increasing in width, broadly interrupted medially and emarginate behind on segments 1-2, a minute spot on each side of segment 6; band on fifth segment covering all but depressed apical margin of segment; head and thorax with large crowded punctures; mandibles, scape, pedicel, first two joints of funicle, reflexed lateral margin of scutum, tegulae and most of tubercles, reddish; wings dark brown, second recurrent vein well beyond apex of second cubital; femora except apices black; rest of legs red, the tarsi basally more yellowish; abdomen closely punctured, punctures on sixth segment crowded and finer; depressed apical margins of segments translucent, in front of this narrowly

reddish; apical half of sixth segment reddish, the margin crenulate; last ventral segment hardly surpassing last dorsal; ventral segments strongly, closely punctured, depressed apical margins translucent, preceded by a reddish band.

Type locality.—Ramsey Canon, Huachuca Mts., Arizona.

Type.—Cat. No. 21837, U. S. N. M.

Described from one female taken by Dr. W. M. Mann, after whom it is named.

Differs from *S. australis* in being larger and more robust, in the crowded punctures of head and mesonotum, the yellow band back of ocelli, the translucent apical margins of abdominal segments, preceded by the reddish stripe, the close punctures of ventral segments three and four, etc. *S. australis* has the apical margin of sixth segment more toothed than crenulate but medially there is a truncate projection medially emarginate.

Halictus.

The following key can be used to separate the females of the Philippine species of *Halictus* known to me:

1. Green.....*taclobanensis* Ckll.
Black..... 2
2. Tibiae yellow.....*manilae* Str. non Ashm
Tibiae black..... 3
3. First abdominal segment with distinct strong punctures..... 5
First abdominal segment impunctate or punctures microscopic..... 4
4. Larger (over 8 mm.) with strong bands of appressed pubescence on bases of segments and on apical margins of 3 and 4.*manilae* Ashm.
Smaller, slender (about 6 mm.) with at most weakly indicated bands on margins of segments.....*nesiotus* n. sp.
5. First abdominal segment sparsely punctured, the apical margin impunctate.....*philippinensis* Ashm.
First abdominal segment including apical margin closely punctured. . . 6
6. Medial anterior margin of mesoscutum reflexed and carinate
baguionis n. sp.
Medial anterior margin of mesoscutum not carinate. . .*banahaonis* Ckll.

Halictus nesiotus new species.

Female.—Length about 6 mm. Black, with sparse whitish pubescence on head and thorax; face finely lineolate, clypeus with scattered large punctures; punctures on sides of face shallow, well separated; those on front finer, deeper; mesoscutum strongly lineolated and sericeous with fine punctures separated by about twice a puncture width; scutellum with a few scattered very fine punctures; propodeum without an enclosure, the base with a few rugulae not reaching apex, rest of surface finely indistinctly

lineolate; posterior face without a surrounding carina; tegulae testaceous; wings dusky; veins brown, stigma darker, first recurrent almost interstitial; second transverse cubital and veins beyond very faint; third cubital almost twice as long as second, hardly narrowed above; legs black, pubescence whitish, tinged with yellowish within, especially on basal joint of hind tarsi; inner hind spur with four teeth; abdomen smooth, polished, almost impunctate, there being very minute microscopic scattered punctures, thinly clothed with whitish pubescence, forming thin apical bands especially on segments 3 and 4; apical margins 1-4 broadly testaceous.

Type locality.—Baguio, Luzon, P. I.

Type.—Cat. No. 21361 U. S. N. M.

Two females received from Col. Wirt Robinson.

Much smaller and more slender than *manilae* Ashm., without the abundant ochraceous pubescence of that species and without strong bands of appressed pubescence on bases of segments and on margins of 3 and 4, etc.

Halictus manilae Ashm.

Strand's description of his *luzonicus* exactly fits this species and is probably the same.

From Baguio, Luzon, three females received from Col. Wirt Robinson.

Halictus philippinensis Ashm.

A long series with the above. The propodeal enclosure in this species is peculiar since it is not the triangular enclosure of other species but is formed by the carina surrounding posterior face of propodeum and by carinae running forward from the lateral angles of this carina and it is therefore four sided, with the sides diverging anteriorly. The carina surrounding posterior face is heart shaped.

Halictus baguionis new species.

Female.—Length over 9 mm. Black, head and thorax with rather abundant long, strongly ochraceous pubescence; punctures of head strong, crowded, below antennae, rugoso-punctate, except clypeus where the punctures are coarse and sparse, becoming finer and closer at base, and the sparsely punctured supraclypeal area; lateral angles of pronotum strongly projecting, the projection forming a right angle; mesoscutum with the anterior margin medially reflexed and carinate; the area just back of this rugose; rest of mesoscutum with large strong punctures, those on disk well separated; punctures of scutellum finer; propodeum with a triangular enclosure bounded by a carina, the enclosure irregularly rugose; rest of surface of propodeum covered with pubescence (worn specimens show the posterior face rugulose and surrounded by a carina which is slightly

interrupted in the middle above); tegulae black with a reddish center and a deep testaceous margin; wings dusky, more sonapically; veins light brown, stigma darker; veins beyond second transverse cubital obsolescent second recurrent before apex of second cubital cell; third cubital cell one-third longer than second, narrowed one-half to marginal; legs black, pubescence ochraceous, that on outer side of tibiae, especially hind, black; inner hind spur with three long teeth; abdomen closely, finely punctured, including depressed apical margins of segments; bases segments 2-5 with light ochraceous hair bands; base of first segment covered with similar pubescence.

Male.—Length about 6.5 mm. Black, without any yellow markings; very similar to female, but tagulae, veins and stigma darker; base of seventh abdominal segment forming a semicircular polished and impunctate pseudopygidium with carinate edge which conceals true apex of segment.

Type locality.—Baguio, Luzon, P. I.

Described from 15 ♀♀ and 1 ♂ received from Col. Wirt Robinson, U. S. A.

Type.—Cat. No. 21360 U. S. N. M.

Very similar in general appearance to *H. banahaonis* Ckll. from which it differs in the carinate anterior margin of the mesoscutum, the strongly projecting lateral angles of the pronotum, the coarser punctures of the mesoscutum the absence of the carinae on the propodeum, running forward from the lateral angles of the carina surrounding posterior face.

CYNIPOIDEA.

Amblynotus slossonae new species

Female.—Length 4 mm., antennae about 2.25 mm. Black, head and mesonotum finely shagreened, pronotum at sides above rugulose, the sculpture becoming finer beneath; third joint of antennae longer than scape and pedicel combined; following joints successively decreasing in length; last joint over one and one-half times as long as 12th; parapsidal furrows complete, deeply cut throughout; posteriorly twice as broad anteriorly; parapsidal areas each with a longitudinal smooth line; middle lobe anteriorly with two lines and at apex with a median elongate triangular impression; scutellum coarsely rugose, basally with two large foveae separated by a carinate ridge; mesopleurae below coarsely striate, above finely granular with a few indistinct fine striae; wings basally strongly yellowish, the apical half very slightly so; coxae black, legs brown, becoming lighter distad; apical half of fore femora and the fore tibiae yellowish; abdomen strongly compressed, shiny, apical segments sparsely finely punctured.

Described from one specimen taken on Mt. Washington, New Hampshire by Mrs. Annie Trumbell Slosson, in honor of whom it is named.

Type.—Cat. No. 21566 U. S. N. M.

This specimen was determined as *A. opacus* Hartig by Ashmead and this record may have been published.

Easily separated from *bilineatus* Kieff by the coarsely sculptured scutellum, and the elongate depression at apex of mesoscutum. From *semirugosus* by the wide parapsidal furrows which are deeply impressed all their length, scutellum rugose all over, etc.

***Amblynotus semirugosus* new species**

Female.—Length 3 mm. Black, head, mesoscutum and base of scutellum finely shagreened; antennae, except scape and pedicel, reddish; third joint of antennae longer than scape and pedicel combined, about five times as long as thick; following joints successively decreasing in length; last joint twice as long as 12th, about as long as third; parapsidal furrows posteriorly deeply impressed, narrow, on the anterior third represented only by a depression of the tegument; parapsidal areas each with a longitudinal line; middle lobe with two lines anteriorly, and a slight depression at apex medially; foveae at base of scutellum separated by a carinate ridge; apical half of scutellum coarsely rugose; carinae on propodeum curved strongly outward; wing slightly yellowish; legs light reddish; coxae black; abdomen somewhat compressed, smooth, shiny, with minute sparse punctures except on basal segment.

Described from one specimen labelled "Adiron. Mts., Axton, N. Y., June 12-22, 1901, A. D. MacG[illivray] and C. O. [Houghton]."

Type.—No. 21567 U. S. N. M.

Differs from the description of *bilineatus* Kieff. in the much longer third antennal joint, the scutellum rugose apically, the carinae on propodeum not parallel, etc.

THREE HUNDRED AND FIFTH MEETING, JUNE 7, 1917.

The 305th meeting of the Society was entertained by the members of the Society from the Branch of Deciduous Fruit Insect Investigations, at the Saengerbund Hall, June 7, 1917. There were present Messrs. Barber, Boving, Craighead, Dietz, Ely, Fisher, Gahan, Greene, Heinrich, Kotinsky, McIndoo, Middleton, Paine, Rohwer, Sanford, Schwarz, Speare, Walton, and Wood, members, and Robt. Fouts, Geo. M. Greene, and E. R. Selkregg, visitors.